

# Work Order ID 99671

April-11-13 2:39:44 PM

**\*99671\***

Page 1

Item ID: D4004-11

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Top Strap Attach Bracket

Start Date: 4/11/13 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 4/11/13 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 13-04-16 Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D4004	<u>X B AD</u>
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100

0.00

**\*100\***

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

1-Cut D3033-144 extrusion to length per D4004-11 detail of dwg D4004

Ensure cut is started at correct place per dwg

Batch: 84257

2-Deburr

105

0.00

**\*105\***

Small Fab

Memo

0.00

Small Fab

Drill and c/sink holes as per dwg and trim part to length as required.

FK  
WSP 13/04/23

8

8

EP 13/04/23

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other

Work Order ID 99671

\*99671\*

Page 2

April-11-13 2:39:44 PM

Item ID: D4004-11

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Top Strap Attach Bracket

Start Date: 4/11/13 Start Qty: 4.00

\*4\*

Cust Item ID:

Required Date: 4/11/13 Req'd Qty: 4.00

\*4\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110 *110* QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00		SMD B425		8			
120 *120* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00 0.00				8		1613426	
130 *130* QC Quality Control	QC3- Inspect Part Finish  Memo	0.00 0.00		DAS 27 26 B426		8			

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  <div style="display: flex; justify-content: space-around;"> <div style="text-align: right;">           Rework <input type="checkbox"/>            Scrap <input type="checkbox"/>            Use-as-is <input type="checkbox"/>            Work Order Update <input type="checkbox"/> </div> <div style="text-align: right;">           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div style="text-align: right;">           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div style="text-align: right;">           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div style="text-align: right;">           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>		<b>AGAINST DEPARTMENT/PROCESS</b>						
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector			
Doc/Data <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Operator <input type="checkbox"/> Material <input type="checkbox"/> Setup <input type="checkbox"/> Other <input type="checkbox"/> Process <input type="checkbox"/> Supplier <input type="checkbox"/> Training <input type="checkbox"/> Unapproved <input type="checkbox"/>												
<b>FAULT CATEGORY</b>												
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other	

# Work Order ID 99671

April-11-13 2:39:44 PM

**\*99671\***

Page 3

Item ID: D4004-11

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Top Strap Attach Bracket

Start Date: 4/11/13 Start Qty: 4.00 **\*4\***

Cust Item ID:

Required Date: 4/11/13 Req'd Qty: 4.00 **\*4\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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140

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00

**\*140\***

Packaging

Memo

57243

0.00

Packaging

13/4/29

150

QC21- Final Inspection - Work Order Release

0.00

**\*150\***

QC

Memo

0.00

Quality Control

13/5/10

MF

13-4-29

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other
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# Picklist Print

April-11-13 2:39:43 PM

Page 1

Work Order ID: 99671

Parent Item: D4004-11

Start Date: 4/11/13

Required Date: 4/11/13

Parent Item Name: Top Strap Attach Bracket

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP rev A 09.12.15 new issue EC verified by:DD IPP Rev:B 10.05.17 as per ECN10-562 DD verf:EC IPP Rev:C 12.03.07 as per dwg rev.b DD verf: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
40456-11-144 SEAT TRACK		Purchased	No			100	f	0.0000	0.41	1.7263156			

D3033-144 B84257

13/04/23

2,666

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

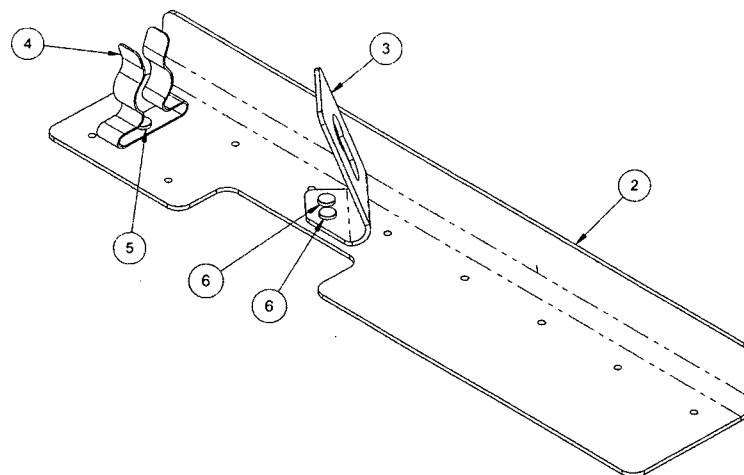
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

**FAULT CATEGORY**

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other



ITEM NO.	QTY. -041	PART NUMBER	DESCRIPTION	JOHN CAMERON AVIATION PART NUMBER
1	X	D4004-041	SIDE RESTRAINT ANGLE	JCA-M47-2-19
2	1	D4004-1	SIDE RESTRAINT	
3	1	D4004-3	ANGLE	
4	1	D4004-7	HOSE CLIP	
5	1	MS20426AD4-4	RIVET	
6	2	MS20426AD4-5	RIVET	



**D4004-041 SIDE RESTRAINT ANGLE**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "ANSI 61 GREY" (4.3.5.15) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.21 lbs



SIROPO  
UNCL  
SUBJECT  
NO 99671ML5

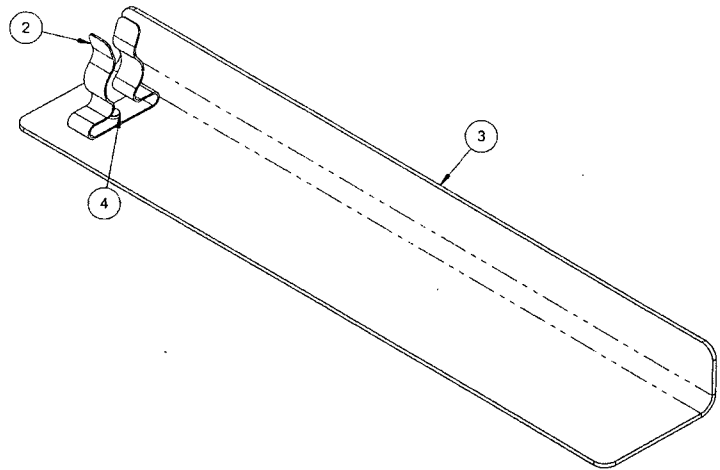
13-04-16

RELEASED  
2012-03-03

B	CHANGE POWDER COAT FROM "GREY SANDEXT" TO "ANSI 61 GREY", ZN A8-1, ZN A8-2.	DC	12.02.27
A	NEW ISSUE	HS	10.02.10
REV.	DESCRIPTION	BY	DATE
DESIGN	DC	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	DC	DRAWING NO.	REV. B
MFG. APPR.	DC	D4004	SHEET 1 OF 11
APPROVED	DC	TITLE	SCALE
DE APPR.	DC	SIDE RESTRAINT	NTS
DATE	12.02.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD  THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

99671

ITEM NO	QTY. -043	PART NUMBER	DESCRIPTION	JOHN CAMERON AVIATION PART NUMBER
1	X	D4004-043	SIDE RESTRAINT ANGLE AND TIE DOWN POINT	JCA-M47-2-04
2	1	D4004-7	HOSE CLIP	
3	1	D4004-9	ANGLE	
4	1	MS20426AD4	RIVET	



**D4004-043 SIDE RESTRAINT ANGLE AND TIE DOWN POINT**

RELEASED  
2012-03-02  
NT

- NOTES:
- 1) MATERIAL: N/A
  - 2) FINISH: POWDER COAT "ANSI 61 GREY" (4.3.5.15) PER DART QSI 005 4.3 B
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
  - 7) WEIGHT: 0.20 lbs

DESIGN	<i>AS</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>BC</i>		
CHECKED	<i>AS</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>CE</i>	<b>D4004</b>	SHEET 2 OF 11
APPROVED	<i>NT</i>	TITLE	SCALE
DE APPR.	<i>NT</i>	<b>SIDE RESTRAINT</b>	NTS
DATE	12.02.27	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	

8

7

6

5

4

3

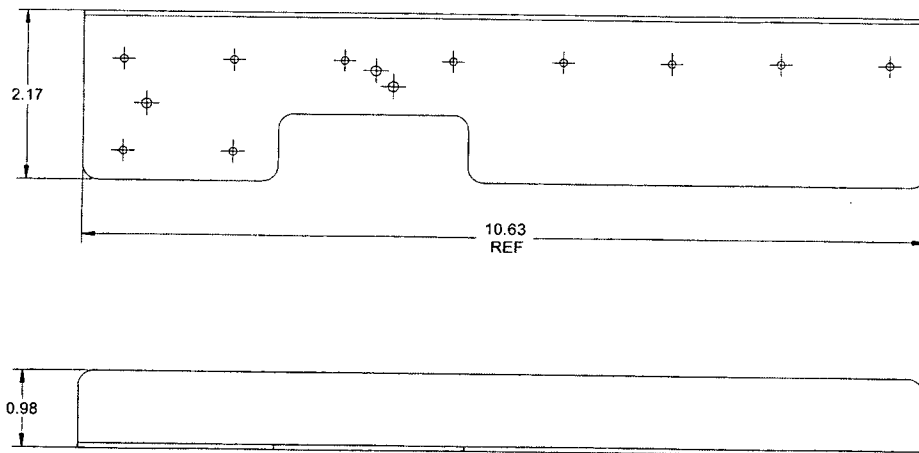
2

1

99671

DART AEROSPACE  
PART NUMBER  
D4004-1

JOHN CAMERON AVIATION  
PART NUMBER  
REF JCA-M47 2-19



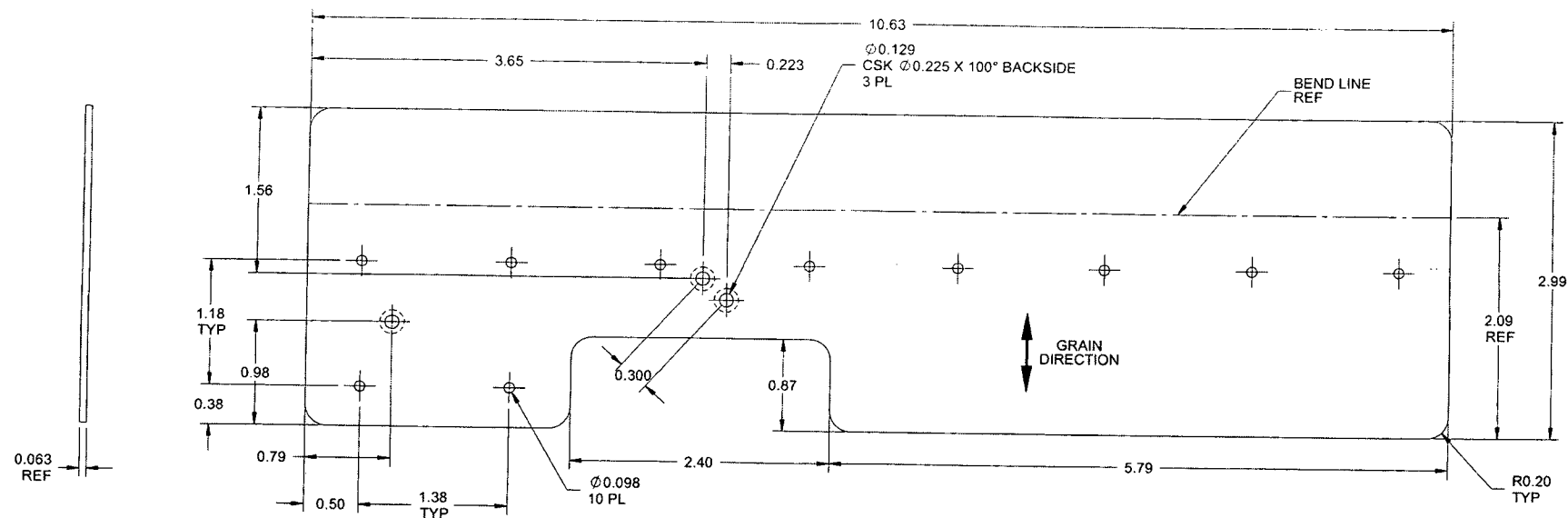
**D4004-1 SIDE RESTRAINT**

**NOTES:**

- 1) MATERIAL: MADE FROM D4004-1F
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs

DESIGN	JB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	BC		
CHECKED	JB	DRAWING NO.	REV. B
MFG. APPR.	JB	<b>D4004</b>	SHEET 3 OF 11
APPROVED	JB	TITLE	SCALE
DE APPR.	JB	<b>SIDE RESTRAINT</b>	NTS
DATE	12.02.27	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

99671



D4004-1F FLAT PATTERN

RELEASED  
2012-03-02  
JMP

## NOTES:

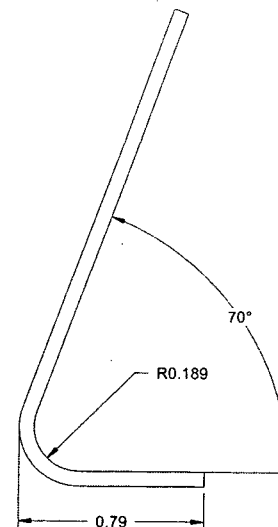
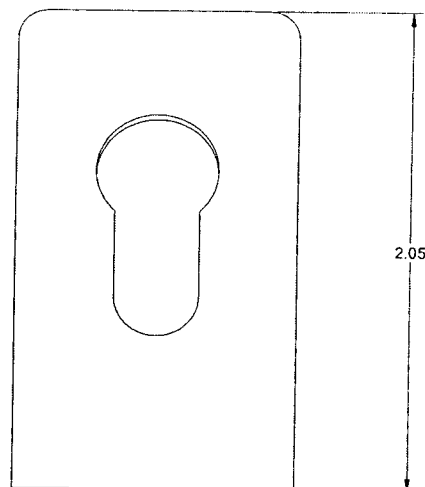
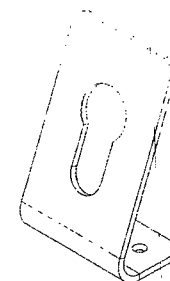
- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.063 THICK  
PER QQ-A-250/4 OR AMS-QQ-A-250/4  
OR AMS 4037 OR ASTM B209  
REF DART SPEC M2024T3S.063
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs

DESIGN	JS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JS		
CHECKED	JS	DRAWING NO. D4004	REV. B
MFG. APPR.	JS	SHEET 4 OF 11	
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	SIDE RESTRAINT	NTS
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DART AEROSPACE  
PART NUMBER  
D4004-3

JOHN CAMERON AVIATION  
PART NUMBER  
REF JCA-M47-2-19



**D4004-3 STRUT LOCK BRACKET**

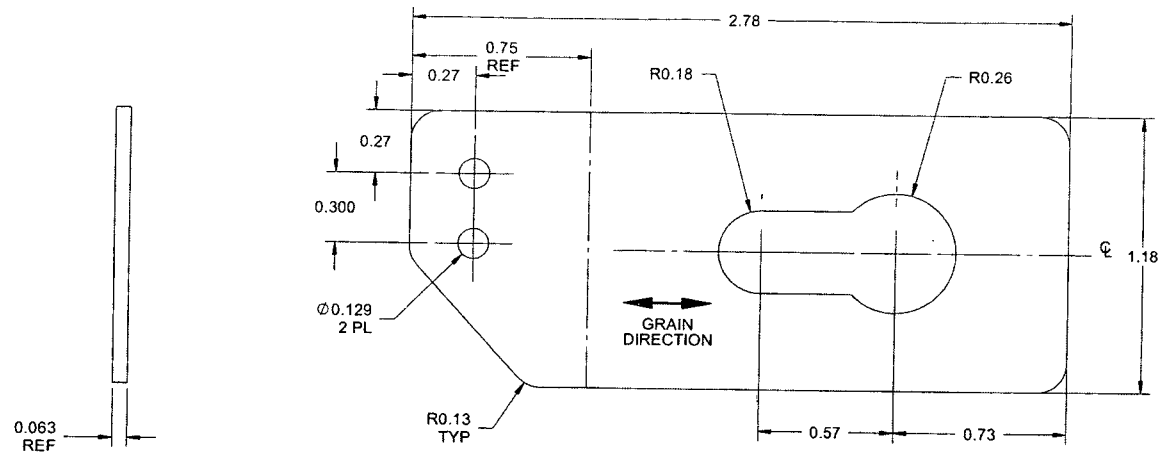
RELEASED  
2012-03-02  
MP

**NOTES:**

- 1) MATERIAL: MADE FROM D4004-3F
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs

DESIGN	JS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	BC		
CHECKED	JS	DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	JS	SHEET 5 OF 11	
APPROVED	MP	TITLE <b>SIDE RESTRAINT</b>	SCALE NTS
DE APPR.	MP	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD</small>	
DATE	12.02.27		

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**D4004-3F FLAT PATTERN**

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2012-03-02

**NOTES:**

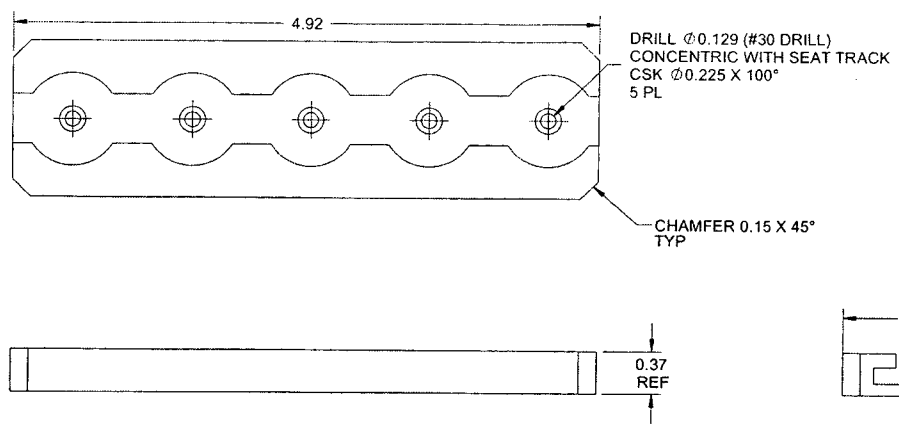
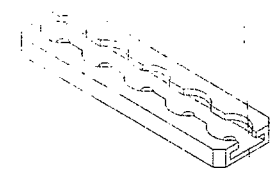
- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.063 THICK  
PER QQ-A-250/4 OR AMS-QQ-A-250/4  
OR AMS 4037 OR ASTM B209  
REF DART SPEC M2024T3S.063
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs

DESIGN	AS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	BC		
CHECKED	AS	DRAWING NO.	REV. B
MFG. APPR.	FE	<b>D4004</b>	SHEET 6 OF 11
APPROVED	149	TITLE	SCALE
DE APPR.	149	<b>SIDE RESTRAINT</b>	NTS
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DART AEROSPACE  
PART NUMBER  
D4004-5

JOHN CAMERON AVIATION  
PART NUMBER  
JCA 1147-2-23



**D4004-5 BOTTOM STRAP ATTACH BRACKET**

RELEASED  
2012-03-02

- NOTES:**
- 1) MATERIAL: MADE FROM ANCR P/N 40456-11-144 OR BROWNLINE P/N 20276-144-0-0 OR D3033-144
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
  - 7) WEIGHT: 0.14 lbs

DESIGN	DB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	BC		
CHECKED	BC	DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	FE	SHEET 7 OF 11	
APPROVED	160	TITLE	SCALE
DE APPR.	160	<b>SIDE RESTRAINT</b>	NTS
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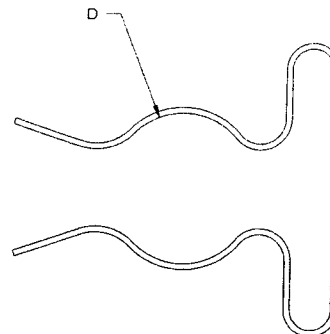
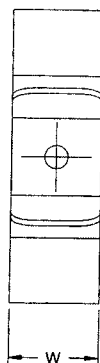
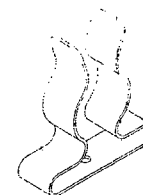
DART AEROSPACE  
PART NUMBER:

JOHN CAMERON AVIATION  
PART NUMBER

D4004-7

N3  
REF: JCA-M47-2-19

# SPECIFICATION CONTROL DRAWING



DART PART NUMBER	POSSIBLE SUPPLIER	SUPPLIER PART NUMBER	MATERIAL	FITS TUBE Ø "D"	WIDTH "W"
D4004-7	MCMaster-CARR	1722A42	NICKEL PLATED STEEL	0.31 - 0.75	0.38

## D4004-X HOSE CLIP

RELEASED  
2012-03-02

### NOTES:

- 1) MATERIAL: SEE TABLE
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.01 lbs

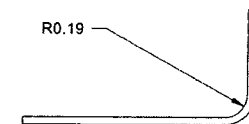
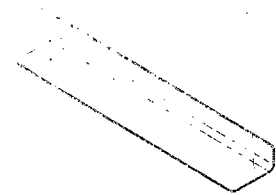
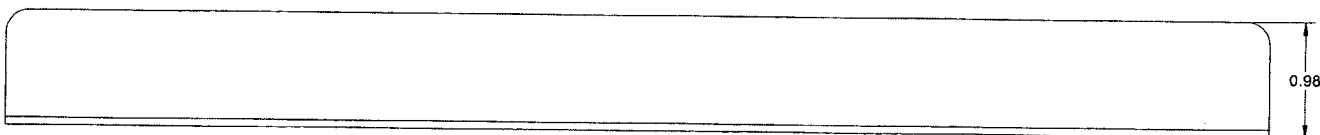
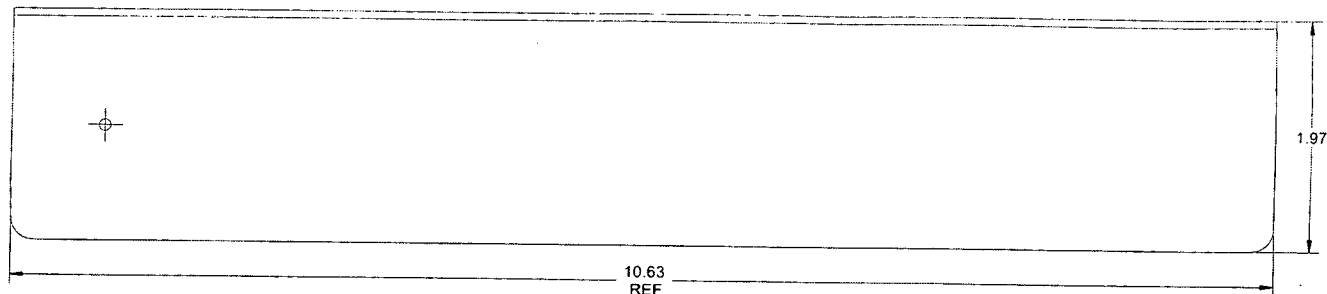
DESIGN	JS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	JC		
CHECKED	JS	DRAWING NO.	REV. B
MFG. APPR.	JS	<b>D4004</b>	SHEET 8 OF 11
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	<b>SIDE RESTRAINT</b>	NTS
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DART AEROSPACE  
PART NUMBER  
D4004-9

JOHN CAMERON AVIATION  
PART NUMBER  
REF JCA-M47-2-01



**D4004-9 ANGLE**

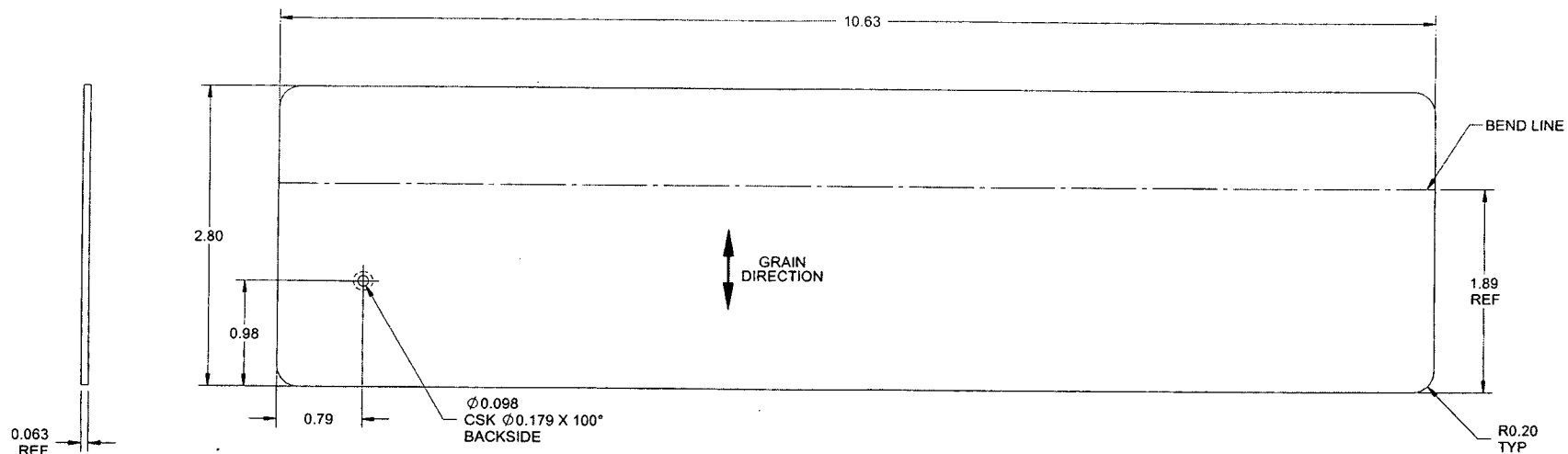
RELEASED  
2012-03-02

**NOTES:**

- 1) MATERIAL: MADE FROM D4004-9F
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs

DESIGN	<i>BC</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>BC</i>		
CHECKED	<i>BC</i>	DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	<i>BC</i>	SHEET 9 OF 11	
APPROVED	<i>BC</i>	TITLE	SCALE
DE APPR.	<i>BC</i>	<b>SIDE RESTRAINT</b>	NTS
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**D4004-9F FLAT PATTERN**

RELEASED  
2012-03-01

**NOTES:**

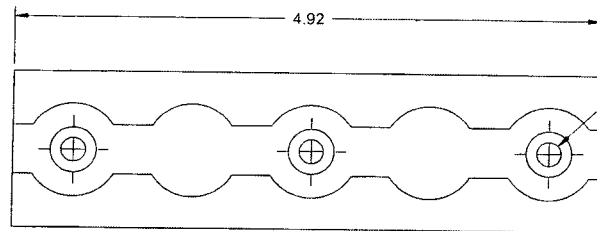
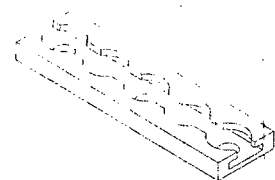
- 1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.063 THICK  
PER QQ-A-250/4 OR AMS-QQ-A-250/4  
OR AMS 4037 OR ASTM B209  
REF DART SPEC M2024T3S.063
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.18 lbs

DESIGN	DE	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA		
DRAWN	BC			
CHECKED	DE		DRAWING NO. <b>D4004</b>	REV. B
MFG. APPR.	DE			SHEET 10 OF 11
APPROVED	DE		TITLE	SCALE
DE APPR.	DE		<b>SIDE RESTRAINT</b>	NTS
DATE	12.02.27	COPYRIGHT © 2010 BY DART AEROSPACE LTD		
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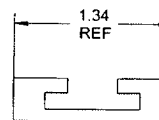
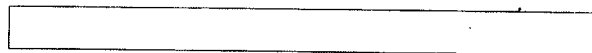
99671

DART AEROSPACE  
PART NUMBER  
D4004-11

JOHN CAMERON AVIATION  
PART NUMBER  
JCA-AM47 2-11



DRILL  $\varnothing 0.204$  (#6 DRILL)  
CONCENTRIC WITH SEAT TRACK  
CSK  $\varnothing 0.385 \times 100^\circ$   
3 PL



**D4004-11: TOP STRAP ATTACH BRACKET**

RELEASED  
2012-03-02

**NOTES:**

- 1) MATERIAL: MADE FROM ANCR P/N 40456-11-144  
OR BROWNLINE P/N 20276-144-0-0  
OR D3033-144
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.14 lbs

DESIGN	JS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	BC		
CHECKED	JS	DRAWING NO.	REV. B
MFG. APPR.	JS	D4004	SHEET 11 OF 11
APPROVED	JS	TITLE	SCALE
DE APPR.	JS	SIDE RESTRAINT	NTS
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